System Galaxy Quick Guide

CONFIGURATION AND OPERATION

KONE (ELI v1.8) Elevator System

INTEGRATES WITH THE GALAXY 635-KEI PANEL

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System Galaxy

KONE Elevator System

Integrating with Galaxy 635-KEI Board

1st edition

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1 WELCOME TO KONE INTERAFACE

This section provides an overview the capabilities, requirements, and description of system functionality of the KONE ELI V1.8 Elevator System integration with System Galaxy 10.5 (or higher) using the System Galaxy KEI Panel.

SYSTEM OVERVIEW …

System Galaxy supports **Kone ELI DCS System** (Destination Control System), where a Galaxy reader is installed with each **Kone DOP** (Destination Operation Panel) at a passenger terminal. DOP Terminals are installed on each floor outside of the elevators. The system supports multiple DOPs (terminals) on each floor.

Galaxy's **KEI Control Panel** (Kone Elevator Interface) communicates with the **Kone DCS server** using TCP/IP Ethernet Port 2005.

The Galaxy KEI Control Panel stores the rules the Kone masks in the KEI Board for the following ...

- **masks for the global and specific DOPs**, for both Online and Offline behavior (manually configured to match Kone DCS)
- **masks for the global and specific COPs**, for both Online and Offline behavior (manually configured to match Kone DCS)
- **masks for each cardholder elevator access rules** (which are loaded from System Galaxy)

SYSTEM TERMINOLOGY …

- **COP - Car Operation Panel**: Galaxy does not interface with COPs but they must be configured into the KEI Board to match the Kone DCS configuration.
- **DOP - Destination Operation Panel**: is the external terminal where a passenger presents an access card and makes a floor request.
- **DCS - Destination Control System**: refers to the Kone server and elevator control system.
- **ELI - Elevator Locking Interface**: this represents the Kone system's ability to lock an unlock DOPs, COPs and destination floors based on the global and specific mapping of the Kone DCS.
- **Floor ID & Terminal ID**: refers to the specific DOP Terminal on each floor.
- **global cop & global dop** - these are the Galaxy programming commands for the KEI Board, used to configure Kone masks into Galaxy controller.
- **specific cop & specific dop** - these are the Galaxy programming commands for the KEI Board, used to configure Kone masks into Galaxy controller.
- **KONE 'online' vs. 'offline' operation**: refers to the situations when System Galaxy is “online” or “offline” with the Kone System due to either party being down. The online and offline operation COP and DOP masks are manually configured into the Galaxy KEI board to match what the Kone system has programmed.
- **GCS Web API Service**: this service supports the Kone interface in System Galaxy and the Galaxy Kone Configuration Tool.
- **Kone Configuration Tool**: a separate utility program used to configure floors, doors, and DOPs after the initial setup of the KEI Board in SG.
- **Kone Masks**: refers to any programming mask that Galaxy KEI Board sends to the Kone DCS (e.g. global or specific DOPs, cardholder elevator access rules, etc.) SG - System Galaxy: acronym for the System Galaxy access control system or software.

SYSTEM COMPONENTS ARE …

1. **Only 1 Galaxy <u>635-KEI Controller</u>:** including the following boards …
    - (1) **635-CPU** running **Flash v10.5 (min)**
    - (1) **635-KEI Elevator Board** (ID = 1 on the I2C Buss; installed next to the CPU)
    - (up to 15) **635-DRM Reader Boards** (installed on the I2C Buss after the KEI Board).
      - This supports up to 30 Readers, 2 readers per board.
      - The 1st DRM on the I2C Buss is board ID 2 (2-16 is valid per channel)
2. **Kone ELI v1.8 (Traditional DCS Basic)** uses TCP/IP Protocol on Port 2005
3. **System Galaxy software v10.5 (min):**
4. **GCS Services** must be running at the SG Communication Server:
    - GCS Client Gateway Service - some configuration is needed
    - GCS Communication Service
    - GCS DB Writer Service
    - GCS Event Service
    - GCS Web API Service - this service is required to support the Kone Configuration Tool. It is installed during Part-3 but must be manually configured to Automatic Delayed Start. Additional setup is required in SG.
5. **Elevator Readers**: one will be mounted at each Kone DOP and wired to the Galaxy 635-DRMs
6. **KONE DOPs:** which are the destination panels (terminals) where passengers present their access cards to the reader and request a destination floor number (call an elevator). These must be configured into SG using the Kone Configuration Tool as well as configured into the KEI Board.
7. **KONE COPs:** (NOT SUPPORTED IN SG 10.5) - but should be configured in the KEI board to match the Kone System
8. **System Galaxy Elevator Access Group Programming** – The Floor Access Programming is best done in the *SG Access Group Programming screen*. It is also possible to edit floor access in the Kone Configuration Tool.

1.1 WHAT'S NEW IN KONE

This section provides an overview the capabilities and requirements for integrating System Galaxy 10.5(or higher) with the **KONE Elevator System** and the **System Galaxy KEI Panel**.

1.1.1 About DOPs for KONE

DOPs are the external Elevator Terminals that allow a passenger to request a floor number and call elevators.

- The KEI Board must be programmed with the ***global*** and ***specific*** DOP programming for online and offline status.
- Online status means the access control system is online with the KONE system.
- There can be more than 1 DOP on any floor/level.
- Each DOP can be configured to allow or restrict any door (front or rear) or any floor in the elevator system.
- A passenger cannot gain access to a floor/door that is set to '0' at a Specific DOP, even if their card should be granted access. Passenger will need to use a specific DOP that allows access to that floor/door.
- **CAN A PASSENGER GAIN ACCESS TO A FLOOR IF THE DOP IS 0 AND THEY HAVE ACCESS?**
- When a cardholder presents a card at one DOP, they are first subject to the configuration of that DOP. The access card will not overrule the access programming at the DOP. If the DOP does not allow passengers above the 9th floor, then the cardholder cannot access to the 10th floor even if their access card would grant it. The cardholder would need to use a DOP that supports the floors their card has been given privileges to access.

ALSO SEE: Creating Access Groups (with Elevator Floors and DOP readers assigned)
ALSO SEE: Assigning an Access Group to an Access Card (that has elevator floors)

1.2 GETTING STARTED

This section provides an outline of the basic install process. The outline is not meant to replace following instructions found in the topics.

1.2.1 BASIC SG/KONE INSTALL PROCESS ...

HARDWARE SHOULD BE INSTALLED & CONFIGURED BEFORE THE SOFTWARE PROGRAMMING IS DONE.

1. Install the Galaxy 635 KEI Elevator Panel (controller)
2. Configure the 635 CPU as normal (using 10.5 Flash)
3. Configure the 635 KEI Board (the KEI Board ID must be set to 1 on the I2C Buss)
4. Configure DRM Boards as needed. (Note the DRMS must use ID 2 – 16 on the I2C Buss; ID 1 reserved for KEI)
5. Configure any DSI Boards and RS-458 DRM Reader boards, only if using more than 32 readers in the KEI Elevator Panel. Remember that ID-1 is reserved for the KEI Board on the I2C Bus
6. Add the KONE 635 Cluster (Loop) to the SG Software (Loop/Cluster Programming screen)
7. Add the KONE 635 Controller (Panel) to the SG Software (Controller Programming screen)
8. Import the Boards (KEI, DRM, (DSI if used), and designate any unused sections appropriately (Controller Programming screen)
9. Map the Readers to the appropriate DOP or COP as appropriate (Reader Programming screen)
10. Create the appropriate Access Groups for the Elevator Floor access (Access Group Programming screen)
    Note: you can also manage elevator floor access via the Kone Config. Tool.
11. Assign the elevator access to individual cardholders as appropriate (Cardholder Programming screen)
    Note certain Special Feature flags are supported in Kone (i.e. handicap flag, etc.)
12. Load the Kone Elevator Programming to the KEI Control Panel.
    Note that the GCS Loader Utility will have the Kone flags enabled (checked) by default.

1.2.2 MAIN COMPONENTS OF THE ELEVATOR SYSTEM?

- **KONE DOPs** (Destination Panels) this is where a passenger makes floor requests and presents access cards.
- **KONE COPs** (Panels inside the elevator car): not currently supported in SG 10.5
- **KONE VIP FEATURE:** VIP credentials affect elevator behavior based on the settings within the Kone system.
- **KEI Elevator Control Panel** (Galaxy KEI Panel): provides the elevator access decision, and floor programming for ***global*** and ***specific*** DOP and COP programming for the KONE System for both ***online*** and ***offline*** states.
- **GCS Services** (the core services and the GCS Web API Service) - the services are installed on the main comm server. the Web API Service requires some configuration**.**
- **Access Groups:** programming in System Galaxy that allows the system to group elevator floors to an access group so that a cardholder has access to the floor.
- **Cardholder Access Privileges:** programming in System Galaxy that allows the system to group elevator floors to an access group so that a cardholder has access to the floor.
- **System Galaxy Server:** The System Galaxy Client/Communication Server is used to monitor events, enroll cards and configure the panel to behave as desired. The Galaxy Operator configures readers, schedules, access rules, floor groups, etc. and loads them to the Galaxy panels. The Comm server also hosts the GCS services, including the Event Service. The Client Software can also be installed on additional workstations. Ability to see, edit, and command Galaxy hardware, readers, cardholders and other programming is controlled by Galaxy operator logon privileges.

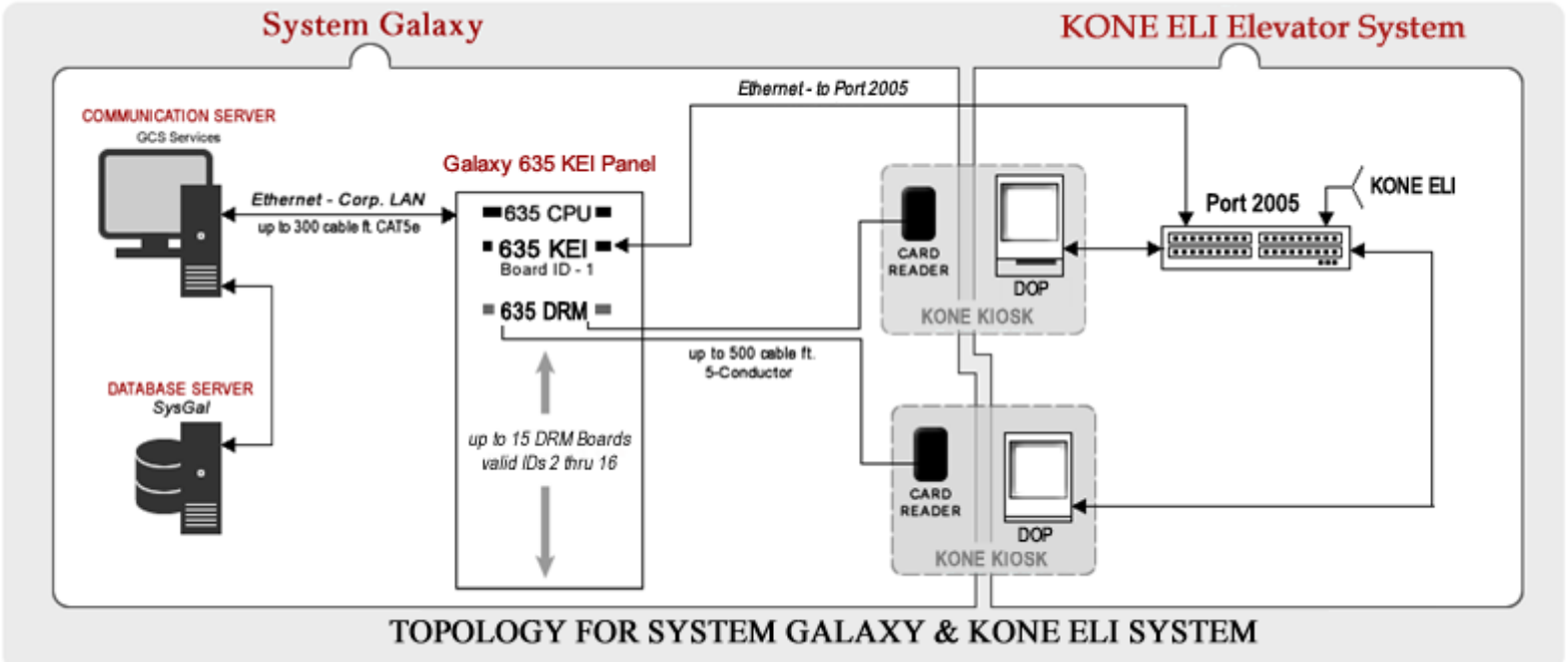
1.2.3 SYSTEM TOPOLOGY – KONE: DOPs with External Readers

DIAGRAM: TOPOLOGY – using External Readers

The diagram below shows the topology supported in the Galaxy integration to KONE.

- A *Galaxy Operator* configures Elevator Floor Group & DOPs into the SG Software and loads the configuration to the Galaxy 635 KEI Panel. The cardholder/card data, access groups, time schedules, default floors and other *special features* are also stored at the Galaxy KEI Panel.
- The ***635 KEI Panel*** sends the KONE masks and User floor authorization masks to KONE.
- When a user presents credentials to an external reader, the card data is sent to the 635 DRM Board inside the Galaxy KEI Panel. The Galaxy KEI Panel makes the access decision (grant or deny), based on the card & access rules stored in the Panel. The access decision and floor mask is returned to the KONE system. The ***KONE DCS server*** controls which elevator car/floor is available, based on passenger load and any special card features (such as VIP feature)..

NOTE: Use the Galaxy **635 - Configuration Tool** to program your DRM boards to unique ID numbers (DRM must start at #2 since KEI Board is #1)**.**
NOTE: All DRMs must be installed in the same KEI Panel. Contact Galaxy if you need assistance with a large-scale solution.



TOPOLOGY FOR SYSTEM GALAXY & KONE ELI SYSTEM

1.2.4 DOP TRANSACTION FLOW

Diagram of DOP Data Flow (Present Card with Floor Number)

1. **At the DOP ...**

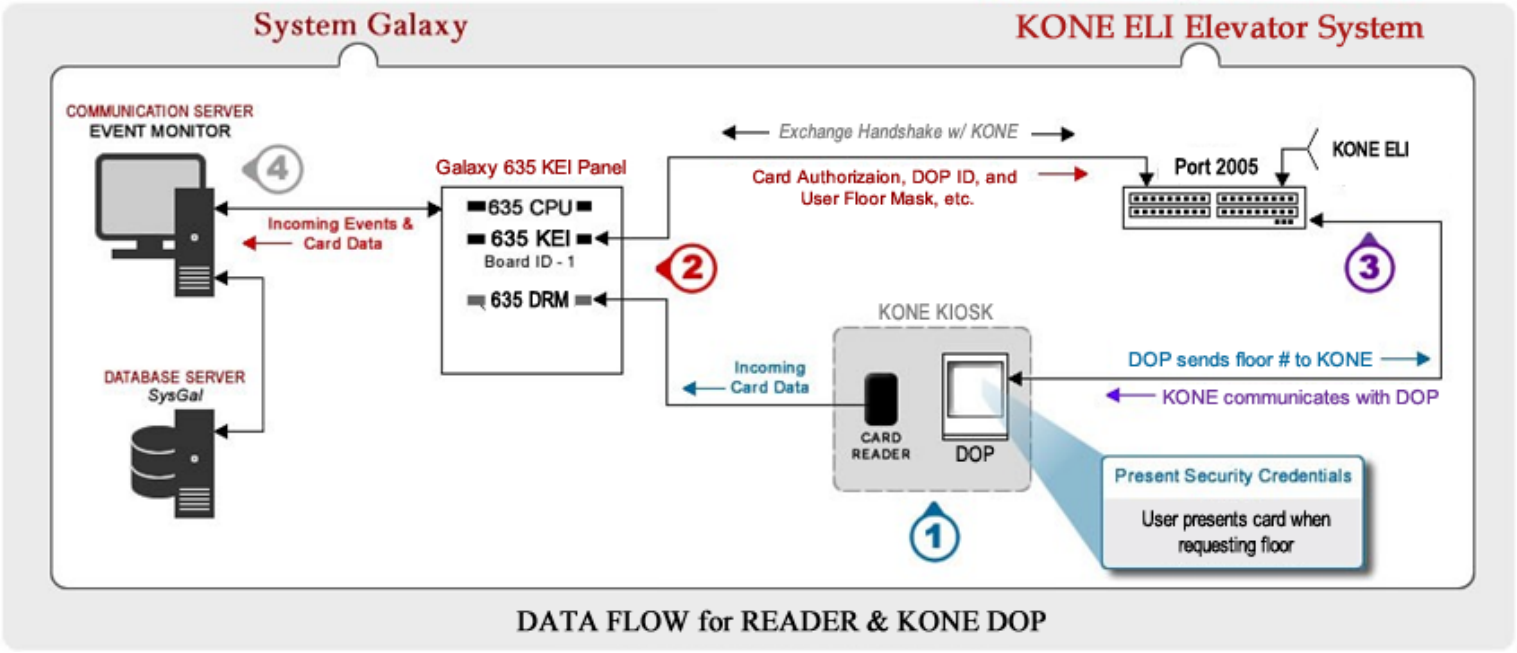
   Passenger presents access card and enters a floor number at the Dop.

2. **The Galaxy KEI Panel grants a valid access card (or denies card) based on schedules and access rules stored in the panel.**

   The Galaxy KEI Panel returns the data to the KONE System.

   The Galaxy KEI Panel transmits events to the SG Server & Event Monitor as to which Reader/DOP are solicited

3. **The DOP displays the elevator car and floor number is lit in the elevator buttons.**



DATA FLOW for READER & KONE DOP

1.3 GALAXY-TO-KONE SYSTEM REQUIREMENTS

IMPORTANT This section provides a consolidated list of known requirements & stipulations (divided by hardware & software) that apply to the Galaxy integration with the KONE system. Please review requirements **before** beginning, to plan appropriately. Keep these requirements in-hand during the install and setup processes, for reference. You can also use requirements as a troubleshooting tool. Although requirements are listed in the order of operation, they are not intended as a substitution for following instructions. Attempting to use the Requirements List as instructions can lead to faulty install or setup – and adversely affect the system operation.

1.3.1 SYSTEM INTERFACE SPECIFICATIONS

This guide does not cover the installation or configuration of the KONE equipment.

1. **System Galaxy v10.5 (min)** integrates with **KONE ELI V1.8 (Traditional DCS Basic)**
2. **There are no SG registration or system settings required for KONE.**
3. **The SG to KONE Integration supports DOPs only (COPs not supported in this release).**
4. **Only 1 KEI Panel with Flash v10.5 (min) – Flash must match software version. See the Hardware Install requirements for information on the Panel and Boards.**
    - Note: that the SG 10.5 does not support COPs (panels/readers inside the elevator cars).
5. **IMPORTANT: The Galaxy Install Technician must obtain the following …**
    a. **the KONE System network addressing (get this from the IT Administrator).**
    b. **the floor/door, DOP/COP programming masks from the KONE system**
6. **The KEI Board must be manually configured with the same "global" and "specific" COP and DOP settings that match the KONE elevator system for both "online" and "offline" states.**
    a. Note: you can have more than one DOP per floor.
    b. NOTICE: Even though SG 10.5 does not support the COPs, it is recommended you program the global COPs into the KEI board, at a minimum. Set them all to "1" (free run) on all doors/floors for online and offline for Specific and Global COPS – OR MATCH THE KONE IF DIFFERENT.
7. **The readers are installed at/near the DOPs are wired directly to the Galaxy 635-DRM.**
8. **Kone Configuration Tool supports programming SG with the Kone elevator configuration.** When you first import the KEI Board into the Kone Controller screen, SG prompts you to set the total number of floors, doors and DOPs (etc.). After the initial programming is done, you will use the Kone Configuration Tool to add/delete floors, doors, and DOPs to match the exact Kone system.
9. **Recommended:** It is better to configure the Elevator Floor Access Groups in System Galaxy's *Access Group Programming screen*.
10. **In the Controller Properties screen …**
    - You must **add only one KEI board** to the Elevator KEI Panel in the Controller properties screen.
    - You must set the CPU Type to 635 (must use a 635-model CPU)
    - You will set the total number of floors the system will serve; note you can add up-to-120 floors from the controller screen. You add or delete floors and doors in ***Galaxy KONE Configuration Tool***.
11. **In the Reader Properties Screen's General tab …**
    a) You must assign the reader to be an 'KONE Elevator type' reader if you use a external reader.
    b) You must map the reader to a DOP ID to the reader also. There can be more than one DOP on a floor.
12. **Elevator Access Groups are assigned to an access card in the *Card Badge Settings tab* of the Cardholder programming screen.**
13. **Elevator VIP Feature is assigned in the *Personal tab* of the Cardholder screen.**
14. **You must load the KEI Panel after all the programming is completed.** NOTE: The GCS Loader now has a Kone option, which must be checked to load the Kone programming.

1.3.2 HARDWARE INSTALL REQUIREMENTS

Requirements herein are specifically related to KONE integration. Full hardware install requirements are found in the *635 Hardware Guide*.

NOTICE: Requirements and stipulations are consolidated here for understanding and planning. However, they may be restated in future sections for sake of continuity in the relevant instructions. Not intended to substitute for instructions.

1. **You can only install 1 KEI Control Panel per KONE System.**
2. **DO NOT wire any interior or exterior Doors to the KEI panel for controlling access. Use a standard 635 Controller for standard door access control.**
3. **All the DOP Readers must be wired to the DRMs in the KEI panel.**
4. **The 635 CPU must be configured with correct IP Addressing.**
   - Set DHCP = 'no' if you are using fixed addressing such as 192.x.x.x.
   - If you are using dynamic addressing, then set DHCP to 'yes' and make sure a dynamic address is leased to your controller so it will behave as a fixed address.
   - You must configure the Network Mask and Gateway addresses
   - The Event Server Address must be static and always uses port 3001 in the CPU for both the event server when configuring the panel. See the Hardware Guide for details.
5. **635 KEI Controller (elevator control panel for KONE Elevator Interface);**

   a) **635 CPU Board - requires v10.5 flash (or higher):**
   - **Max. 1 KEI Board** (must be ID 1 on the I2C data buss).
   - **Up to 15 DRM boards** on the data buss (i.e. up to 30 readers) - (valid DRM ID 2-16 on the I2C Buss; because ID-1 is reserved for the KEI board)
   - (Optionally) **up to 64 Readers on Remote DRM Modules using 635 DSI Boards**. In this case, valid Remote DRM IDs are 1-16 – they do not conflict with Board IDs on the I2C buss)

   b) **635 KEI Board - requires v10.5 flash (or higher) :**
   - The KEI board must be factory flashed and the KEI board ID must be '1' (factory default)
   - Uses Ethernet Cat5e (300 cable feet) to connect to KONE system
   - The KEI board must be connected to **port 2005** on the KONE system
   - The Global and each Specific DOP must be programmed into the KEI board to match the Kone system.
   - The Global and Specific COPs can be programmed into the KEI board to match the Kone system. But COPs are not supported in SG 10.5 Release. You may at least want to program your Global COPs

   c) **Requires 635-model DRM Board - supports up to 2 readers per board (or up to 2 DOPs per DRM).**
   - DRM boards get their flash from the 635 CPU when you perform the ***update board flash***;
     **** DO NOT POWER FAIL THE DRM, CPU OR CONTROL PANEL DURING FLASHING.****
   - Set DRM Board ID BEFORE you install it, using the onboard dipswitch (see below for valid IDs).
   - Valid IDs are 2-16 when DRMs are installed on the Local I2C Buss (up to 30 Readers/.DOPs).
   - You can have multiple DOPs on each floor.
   - Only elevator readers can be wired to the DRM boards in the KEI Controller. Non-elevator readers for interior or exterior doors must be connected to a non-elevator controller.
   - See the Galaxy ***635 Hardware Guide*** for instructions on wiring specifications (i.e. gauge, distance, etc.) and for landing reader wires to the DRM terminals.
   - NOTE: DRM Relay-1 DRM Relay-2 are not wired (unused) for the KONE system.

1.4 TROUBLESHOOTING TIPS

This section provides instructions on interrogating the KEI Board.

1.4.1 VERIFYING DOP SETTINGS IN THE KEI BOARD

- The Global and Specific DOP programming can be obtained from the KONE System Administrator.
- The Galaxy installer must program the global and specific DOP settings in the KEI board to match the programming obtained from the KONE administrator.

You can find out what the DOPs global and specific online and offline settings are by connecting to the KEI Board's serial RS-232 PORT and running the command line commands to program the DOPs.

See the section on programming the KEI Boards.

1.4.2 GLOBAL & SPECIFIC DOP COMMANDS - KEI BOARD

Use these commands to confirm or correct any floor configuration.

The ***global dop*** **command** will return the floor programming for front & rear doors for "online" and "offline" states that is currently configured into the KEI Board.

The ***specific dop*** **command** will return the floor programming for front & rear doors for "online" and "offline" states that is currently configured into the KEI Board. You must specify which DOP ID you are requesting when issuing the commands.

- The **online settings** define which floors & doors are available when the KEI Board is online with KONE.
- The **offline settings** define which floors & doors are available when the KEI Board is offline from KONE.

Use a terminal emulator, such as Putty or HyperTerminal to issue the *global dop* command.

1. Connect one end of the Galaxy *hardware programming cable* to the KEI Board's 9-pin serial port. Connect the other end to the PC's COM port (serial port).
2. Start the terminal emulator and set up the connection parameters.
   - Bits per Second = 57,600K
   - Data Bits = 8
   - Stop Bits = 1
   - Parity = None
   - Flow Control = None
3. Type 'global dop' (without the quote marks/all lower case) into the emulator command line.
4. The Galaxy KEI Board will list every floor/door for online and offline (0= not available, 1= available).

1.4.3 GLOBAL & SPECIFIC COP COMMANDS - KEI BOARD

Use these commands to confirm or correct any floor configuration. COPs are not supported in SG 10.5 so you only need to perform the global cop programming. You obtain the global cop programming from the KONE administrator.

Issuing the ***global cop*** **command** will return the floor programming for front & rear doors for "online" and "offline" states that is currently configured into the KEI Board.

The ***specific cop*** **command – currently not supported**.

- The **online settings** define which floors & doors are available when the KEI Board is online with KONE.
- The **offline settings** define which floors & doors are available when the KEI Board is offline from KONE.

Use a terminal emulator, such as Putty or HyperTerminal to issue the *global dop* command.

1. Connect one end of the Galaxy *hardware programming cable* to the KEI Board's 9-pin serial port. Connect the other end to the PC's COM port (serial port).
2. Start the terminal emulator and set up the connection parameters.
    - Bits per Second = 57,600K
    - Data Bits = 8
    - Stop Bits = 1
    - Parity = None
    - Flow Control = None
3. Type 'global cop' (without the quote marks/all lower case) into the emulator command line.
4. The Galaxy KEI Board will list every floor/door for online and offline (0= not available, 1= available).

2 HARDWARE CONFIGURATION

This chapter covers the configuration of System Galaxy hardware as it relates to the KONE integration. See the 635 Hardware Install Guide for more instructions on installing hardware that exceeds the scope of this guide.

2.1 INSTALLING AND CONFIGURING HARDWARE

2.1.1 HARDWARE INSTALL QUICK STEPS

The quick steps are a guideline of what order the steps must be done. Remember to use the Hardware Requirements (from Chapter 1 of this guide) along with the instructions in the *635 Hardware Guide* to complete the installation.

1) **Configure the GALAXY 635 Elevator Control Panel**

   a) **Install & Configure the CPU board:**

   - set the fixed IP Address, Subnet Mask and Gateway;
   - set the Loop and Controller Unit number to match the Loop and Controller number in the software; CPU must be numbered 1;
   - NOTE: DHCP can be set to YES, but a leased address should be used if fixed addressing is not available.
   - set the Event Server IP address and set port 3001 and save settings

   b) **Install the KEI board:** this board is factory flashed and is set to Board ID 1. Connect to the I2C Ribbon Cable.

   - Connect the RS-232 Serial cable from the PC 9-PIN RS-232 serial port to the KEI board serial port, to configure the KONE network connection settings.
   - This board must be configured using and emulator. Start the terminal emulator and set up the connection parameters.
     - Bits per Second = 57,600K
     - Data Bits = 8
     - Stop Bits = 1
     - Parity = None
     - Flow Control = None

   c) **Install & Configure the Local DRM boards on the I2C BUSS**:.

   - BEFORE installing each DRM set a unique Board ID (between 2 -16; via the dipswitch)
   - NOTE: the DRM flash must match the CPU flash version. If it does not, the board must be updated by manually clicking the option to update boards – in the GCS Loader or in the 635 Configuration Tool.
   - NOTE: Physically wire each external reader to a DRM board (see the ***635 Hardware Guide***).
   - IMPORTANT: Only elevator readers (coming from DOPs) can be wired to the DRMs in the G Elevator Panel. Use a separate panel for other door readers.

   d) **Complete panel installation as per *635 Hardware Guide*.**

2) **Physically connect the Ethernet cable from 635 CPU Board to the corporate LAN.** The CPU will connect to the event server/communication server based on network programming.
3) **Physically connect the Ethernet cable from the 635 KEI Board to the KONE System (uses port 2005).**

2.2 CONFIGURE THE KEI CONTROL PANEL (Hardware)

You can use the ***635 Configuration Tool*** to program the CPU and DRM's from an internet browser such as Internet Explorer. The *635 Config Tool Guide* describes installing and using the 635 Config Tool. The *635 Hardware Guide* describes installing the Galaxy Hardware, including product safety information, requirements, reader wiring (etc.) in greater detail.

IMPORTANT NOTICES

- The PC running the ***635 Config Tool*** must be connected to the same broadcast domain as the 635 CPU.
- The Config Tool will find the panel by it's factory MAC Address.
- Read the *635 Hardware Guide* for Installation/Product Safety and Requirements before installing.

2.2.1 QUICK CHECKS FOR THE CPU

The following items must be specifically set in a certain way to interface with the KONE System.

1. Cluster/Loop ID: The ID that the SG Software gave the elevator Loop (in the previous step B)
2. Controller Unit ID: should be 1 (recommended that no other panels are assigned to this loop)
3. CPU number: must be set to 1
4. Network Settings: IP Address, Gateway, Network Mask will be configured as needed to reside on the customer's LAN. A static IP Address is recommended.
5. DHCP: should be 'no' if you are using a static address. If you are using DHCP, then set DHCP to yes and have the IT Professional assign a leased address to the panel's MAC address.
6. Event Server IP Address: must match the IP Address of the Event Server that you set in previous step B-10). This is typically the same IP Address as the Communication Server.
7. Connection Ports should be set to 3001 for both the Event Server and for the Panel.
8. You must save the settings of the CPU

2.2.2 QUICK CHECKS FOR THE KEI and DRM BOARDS

- **The KEI BOARD ID must be '1'** (this is at the factory and should not be changed).
- The flash version of the KEI Board must match the CPU**. (this is set up at the factory)**
- **The DRM must be set to '2' or higher.** (2 thru 16 is valid; do not duplicate board IDs)
- **Each DRMs flash must match the CPU version.** You must manually invoke the flash update.

  WARNING: Do NOT INTERRUPT POWER to a DRM board, or panel, or CPU until all boards have completed flash update.

2.3 CONFIGURING GLOBAL DOPs & COPs

After the KEI Panel is installed and the basic board configuration is finished, the Galaxy Installer must manually program the floor/door and COP/DOP settings into the KEI Board.

The global and specific DOP and COP settings for floors/doors must match the KONE ELI System!

COPs are not currently supported in SG 10.5 but it is recommended you configure at least the global COPs.

- Use the **global cop** command to program the floors and doors (1 = available / 0 = not available)

DOPs are supported. You can have multiple specific DOPs on each floor.

- Use the **global dop** command for online and offline floors & doors (1 = available / 0 = not available)
- Use the **specific dop** command to program each dop on each floor for online and offline floors & doors (1 = available / 0 = not available)

2.2.3 CONFIGURING GLOBAL DOPs:

1. Connect the Terminal Emulator serial cable to the serial port on the KEI Board …
    - Connect the RS-232 Serial cable from the PC 9-PIN RS-232 serial port to the KEI board serial port, to configure the KONE network connection settings.
    - This board must be configured using and emulator. Start the terminal emulator and set up the connection parameters.
        - Bits per Second = 57,600K
        - Data Bits = 8
        - Stop Bits = 1
        - Parity = None
        - Flow Control = None

2. At the command line, type **global dop** and configure all the doors and floors for online and offline status to match the KONE system
    a) Type **yes and press <Enter>** When prompted to make changes
    b) Type the **floor number and press <Enter>** (**start at 1** if this is the first install)
    c) Enter a **1 or 0 as appropriate** for each floor/door for both online and offline (1 = allowed and 0 = available). The cursor will advance to the next field each time you enter a value (1 or 0).
    d) Press **<Esc> key** to stop when you are finished (the board will display all your programming)
    e) Type **no and press <Enter>** if you do not want to make more changes (if you type yes, you will be prompted for a floor number and go back to step 2b. This is a good time to correct any entry errors). If you mistakenly typed yes just press <Esc> and no.
    f) Type **yes and press <Enter>,** to save changes. (a message will display stating data has been saved in flash).

```
> global dop
Display/Set Global DOP mask
          online       offline
Floor    Src  Dest     Src   Dest
-----    ---  ---      ---   ---

Do you wish to make changes? (yes/no/clear): yes
Enter floor number (1-100): 1
          online       offline        0=not allowed: '-' will be displayed
Floor    Src  Dest     Src   Dest      1=allowed: F or R will be displayed
-----    F-R  F-R      F-R   F-R       esc = stop
   1     F R  F R      F R   F R
   2     F R  F R      F R   F R
   3     F R  F R      F R   F R
   4
          online       offline
Floor    Src  Dest     Src   Dest
-----    ---  ---      ---   ---
   1     F R  F R      F R   F R
   2     F R  F R      F R   F R
   3     F R  F R      F R   F R

Do you wish to make more changes? (yes/no): no
Do you wish to save the changes in FLASH? (yes/no): yes
New values data has been saved in flash.
>
```

2.2.1 CONFIGURING SPECIFIC DOPs:

Configure all the doors and floors for online and offline status to match the KONE system. You are basically defining which floors and doors are allowed (1) or not (0) from each DOP on each floor, for both online and offline operation.

1. If needed, connect the Terminal Emulator serial cable to the serial port on the KEI Board …
   - Connect the RS-232 Serial cable from the PC 9-PIN RS-232 serial port to the KEI board serial port, to configure the KONE network connection settings.
   - This board must be configured using and emulator. Start the terminal emulator and set up the connection parameters.
     - Bits per Second = 57,600K
     - Data Bits = 8
     - Stop Bits = 1
     - Parity = None
     - Flow Control = None

2. At the command line, type **specific dop** (if any DOPs have been programmed they will display).
   - You can enter a new Floor and Term ID to add a new DOP
   - You can enter an existing Floor and Tem ID to change a DOP.
   - You can enter 0,0 to quit programming.

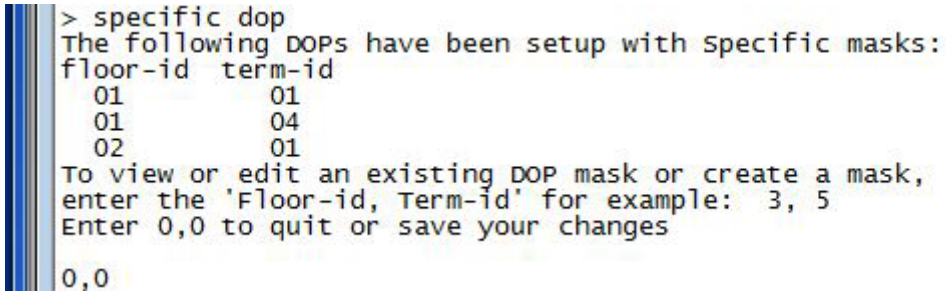
   a) Type **Floor #, DOP # and press <Enter>** (example 1, 1 or 2,1 or 10,2)

   b) Enter a **1 or 0 as appropriate** for each floor/door for both online and offline (1 = allowed and 0 = available). The cursor will advance to the next field each time you enter a value (1 or 0).

   c) Type 0,0 to stop when you are finished (the board will display all your programming)

   d) Type **no and press <Enter>** if you do not want to make more changes (if you type yes, you will be prompted for a floor number and go back to step 2b. This is a good time to correct any entry errors). If you mistakenly typed yes just press <Esc> and no.

   e) Type **yes and press <Enter>,** to save changes. (a message will display stating data has been saved in flash).



2.4 CONNECTING THE 635-CPU TO THE ETHERNET NETWORK (LAN)

Once the Elevator Panel is installed and configured, you can connect the 635 CPU to the corporate LAN.

The 635 CPU supports 100 MB via the onboard network connector.

- when connection is established at 100 MB/ Base-T, both LED'S will be ON/SOLID on the RJ45 Ethernet Jack of the CPU Board.

IMPORTANT: The network communication path between the 635-CPU and the System Galaxy Event Server must be unblocked (routers, hubs, switches, etc.) .

NOTE: Always consult the 635 Hardware Guide and the 635 Config Tool Guide for instructions that are not covered in this brief section.

2.4 CONNECT THE KEI BOARD TO THE NETWORK

Connect the 635 KEI Board to KONE system with the IP Address provided by the IT Administrator and Kone port 2005.

TIP: A handshake is established between the two Systems when the Galaxy Panel is online and the KONE system is online. A tool such as Wireshark can be used to confirm the connection and heartbeats have been established.

2.5 VERIFY THE 635-CPU CONNECTS TO THE EVENT SERVICE

After the Galaxy Communication Server is installed, the KONE Elevator Panel's CPU will initiate it's connection to the GCS Event Service. It may take a couple of minutes. You can verify the connection using the Service Monitor.

TIP: Start the ***Service Monitor*** from **Windows Start > All Programs > System Galaxy > Utilities > Service Monitor**. You can 'pin' the monitor to the task bar for convenience.

NOTES:

- If the CPU is not online after a reasonable amount of time, you should verify that you correctly configured the CPU IP, MAC, and Gateway Addresses. Also make sure that the DHCP flag is properly set (set "no" if you are using a 192 address; "yes" if you are using a dynamic address that is leased as a fixed address).
- Verify that the Event Server's IP address is correctly set. Make sure the CPU is using port 3001 to connect.
- Make sure the Ethernet cables for the Panel and for the Comm Server are connected and are properly pinned. You should use a normal 'straight thru' cat-5e Ethernet cable.
- Verify that port 3001 is not blocked at the Communication Server's Virus software or Windows firewall settings, or any network device (hub, router, etc.).

Steps to verify the connection to Event Service:

1. (Windows-7 or higher) Open the GCS Service Monitor to view the Event service connections.
2. At the top of the Service Monitor window, click on the [Fill Services List] button.
3. Select (highlight) the Event Service in the left-hand list.
4. Click on the [Connect to Service] button at the bottom of the screen.
5. All controllers (CPU's) that have successfully connected will display in the list. You can find the KONE CPU by the IP Address listed in the Connections tab.

3 SOFTWARE CONFIGURATION

This chapter covers the configuration of System Galaxy software (i.e. the programming screens). See the System Galaxy Software User Guide for instructions outside the scope of this guide.

3.1 ABOUT INSTALLING THE SYSTEM GALAXY SOFTWARE

Detailed instructions for installing the System Galaxy 10.x software are found on the Install DVD (disk-1)

1. When the install DVD is inserted the Installation splash screen opens.
    a. You must install Part 1 on every Galaxy computer
        - You should read the *Part 1 Read-Me* file.
        - Part- must be installed on all servers and clients even if you are upgrading an existing system from a prior version.
    b. You will install Part 2 on every Galaxy computer
        - You should read the *Part 2 Read-Me* file.
        - For new installs, the full database install must be done on the computer that will serve as the database server. This can be the same or different PC than the communication server.
        - For upgrades, you must upgrade the database (instructions are in the Install Help)
        - For all other Galaxy clients/servers you must install the ODBC Client components.
    c. You will install part 3 on the Communication Server / Client choosing the appropriate option (i.e. Comm. Server, workstation, etc.). For upgrades, you must back up all files, reports, photos, badging templates and assets, and then uninstall the software before running Part-3. If you are using Card Exchange, consult the SG-10 CEX Badging Guide for details.

    NOTICE: the GCS Web API Service is installed on the Communication Server during Part-3. You are prompted to choose the desired http and https ports during the install. However, you can leave them as default and configure them later in the AppSettings file if you do not yet know the IP parameters. After the installation is completed , you manually set the Web API Service to start "Auto Delayed" on the web server. Also the URL for the GCS Web API Service must be set up in the SG Config settings for the Client Gateway in the SG software.

2. Once the software is properly installed, the GCS Web API Service must be configured
    a. Open the PC services window and locate the GCS Web API Service
    b. Right-click the service and choose Properties from the context menu
    c. Set the service to start Automatically (delayed start) and Apply/Save changes.
    d. Manually start the service the first time (or restart the PC if convenient to do so - this will validate that the service will start up automatically).

CONTINUE STEPS ON NEXT PAGE

3. Launch System Galaxy software from the desktop icon …(continue next page)
    a. enter a master login and password to use for system configuration - Sign In when prompted. (the System and Workstation must be registered within 14 days)
    b. From the SG Menu, select Configure > Options > Client Gateway
    c. In the Client Gateway screen, configure the URL (https) path to the Web API Server. If you need more information on the Web API Service reference the Galaxy Mobile Apps
    d. You can configure all the loops, controllers, readers, schedules, and elevator DECs, operation modes, and Floor Groups before registering since the KONE options are not associated with registration options.
    e. Refer to Chapter 5 of the System Galaxy Software User Guide for registering the system. Register the software & clients for the options purchased within the 14-day grace period.
    f. You must contact Galaxy Dealer Support to get your registration code.
    g. Your product level, options and product code must match your purchase agreement.

3.2 SOFTWARE QUICK STEPS

These are quick steps, you can use these as your guide. Detailed instructions for these steps are found in the following sections.

NOTES

- After you have installed the System Galaxy 10.x software on the main Communication Server / Database Server as appropriate. Register the software and clients as appropriate for the options purchased.
- Installation of software is covered on the Install DVD Help
- Registration is covered in the Software Manual. There is no specific registration option for KONE, Elevators, or KEI boards.

1) Check the ***Galaxy Event Service*** to confirm that the ***635 KEI Elevator control panel*** is successfully connected. It may take a few minutes for the CPU to connect to the Event Service. TIP: Use the GCS Service Monitor (Windows-7 or higher) or Service Manager (which gives you more options) to view connections to the Event service.
2) Launch the System Galaxy Software from the desktop icon and sign in with a master login.
3) In **Loop Properties screen**: add KONE's 635-Cluster (Loop) using correct IP Settings and port 4003.
4) In **Controller Properties screen**: add the 635-Controller & 635 CPU.
   a) You can use [GET BOARD INFO] button to import the KEI board and DRM Boards to the software.
   b) When you are prompted you will set the correct number of DOPs per floor, number of floors and doors (front and rear), etc.
   c) Also you will be prompted to choose the most common reader type (such as proximity) used by most of the DRMs boards (choose the most common reader type used at the DOPs – this way you will have less programming to do in the Reader screen.
5) **KONE Elevator Programming**: If you need to make adjustments to your elevator programming you must do so using the Kone Tool. You can change the number of floors, doors, and DOPs from the Tool.
6) In **Reader Properties screen**: define the readers as ***KONE Elevator Readers*** and ***assign a DOP number*** that you want that reader to work with. Set the reader technology type if different from the common reader type that you chose in the Controller import – step 4 above. You can rename the reader using a logical name that indicates where the reader is located (e.g. "Main Lobby DOP-1", or "Floor-3 DOP-6") – this is very useful when monitoring the system and cardholder activity.
7) In **Time Schedules screen:** create each ***Time Schedule*** needed for the following–
   a) **Elevator Access Groups** – controls when the cardholder can use the elevator readers and floors.
   b) **Interior or exterior doors** – for the cardholder to have access to interior doors as needed.
8) In the **Access Group Programming screen**, create any Access Groups you need for cards.
   a) **Elevator Access Groups** – for cardholders to use the elevator readers and floors.
   b) **Interior or exterior Door Access Groups** – for cardholders who need access to interior door readers.
9) In **Cardholder Programming screen**, (enrollment) assign the appropriate Access Groups to each access card.
   a) **Assign the Elevator Cluster** (loop) to the cardholder's access card
   b) **Assign the appropriate Elevator Access Group(s)** to the access card .
   c) Assign any Interior or exterior door Access and those loops as needed.

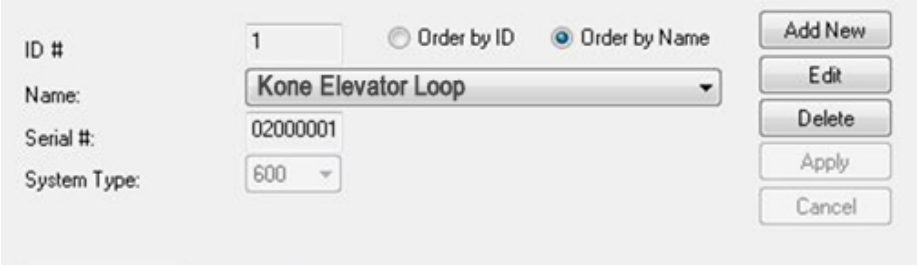
3.3 ADDING THE KONE LOOP (Cluster) TO GALAXY SOFTWARE

Program the Elevator Loop into the System Galaxy Software. The 635-series panel must be assigned to a unique Cluster number. This must match the panel configuration in order to load any data to the panel.

NOTICE: IF you use the Galaxy Loop and Controller Wizard, you must remember to manually set the CPU type to "635" in the Controller Properties screen. *See the Section 3.8 of this guide and follow instructions carefully.*

1. **Open the Loop Properties screen: from the menu *Configure > Hardware > Loops***
2. Once the Loop screen is open, click Add New Loop/Cluster.

   NOTE: The Cluster (Loop) ID # is a unique number set by the system.
   Record the cluster number to use when programming the 635-series CPU. The cluster ID in the CPU must match the system's cluster number in this screen.
3. Enter a descriptive name for the Loop in the Loop Name field holds the (max. 50 characters).
4. The ***Serial Number field*** holds the serial number of the CPU. This can be found on a label on the CPU.
5. Use the System Type droplist to select "600" or 635 if avail. (KONE is not compatible with 500-series)

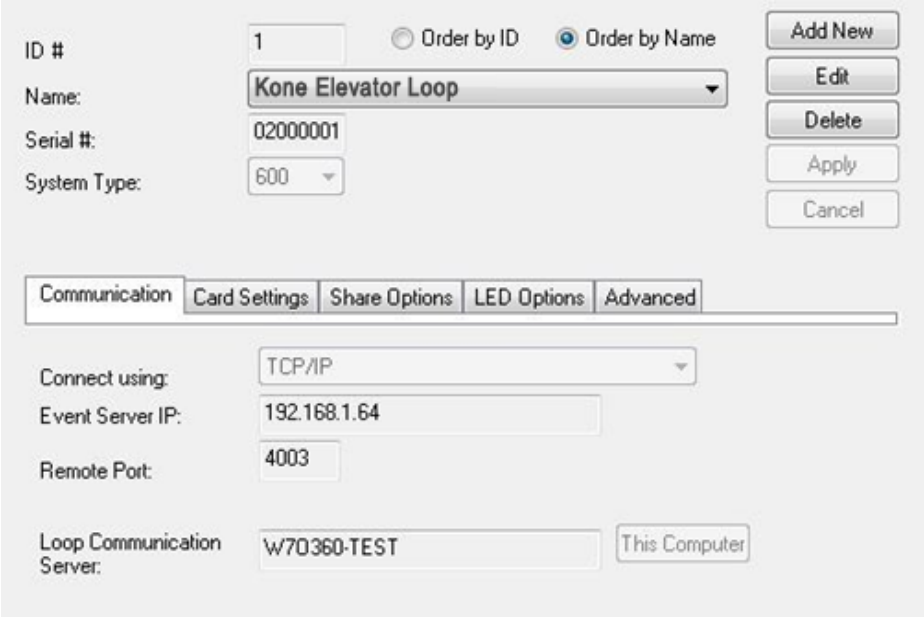


Loop configuration is continued in the next section

3.3.1 CONNECTION SETTINGS TAB

1. Set the Connect Using droplist to “TCP/IP”.
2. Set the Event Server IP Address field to the IP address of the computer running the Event Server for this loop/cluster. The Event server is the computer where the Event Service will run. This is typically the same as the Communication Server.
3. the Remote Port field is set to 4003 for 635-series controllers. *Do not set 3001 in this field.*
4. The Communication Server field is the name or IP address of the Communication Server. The Communications Server is the PC where the GCS Communicator Service is running. If the PC you are working from is Communication Server, click This Computer button to auto-fill the computer name.

NOTE: On the Advanced Settings tab, you can set the **Time Schedule format** – will default to 15- minute format (recommended). You can set 1-minute format on 635-series Loops. *See the SG Software Guide Schedule Programming in Chapter 7 for details – or see the 1-Minute Schedule Guide*.

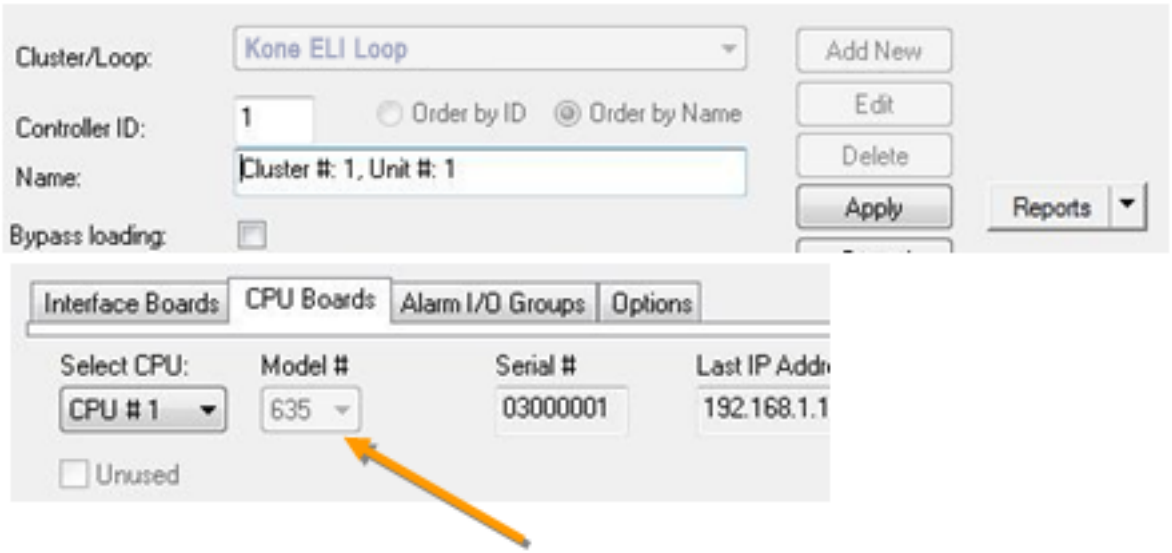


3.4 ADDING THE 635 CONTROL PANEL TO GALAXY SOFTWARE

- **IMPORTANT:** the Galaxy Loop supports only one KEI Controller per loop.
- **IMPORTANT:** the KEI Controller supports only one KEI board.
- **IMPORTANT:** the KEI Controller can support up to 32 readers (16 DRMs). ALL DRM's must be used for elevator readers. Use a separate panel/loop for any readers that will not be linked to an KONE DOP.

3.4.1 ADDING THE PANEL & SETTING THE CPU MODEL

1. **Open the Controller Properties screen from the menu *Configure > Hardware > 600 Controllers***
2. Select the KONE Elevator Loop/Cluster name.
3. Click the ADD NEW button to add the control panel.
   - NOTE: The System's (Unit) ID # should automatically be set to '1' since this is the only panel on this loop/cluster. (Galaxy recommends that no other panels are assigned to this loop).
   - This number must match the Unit number configured in the CPU.
4. Enter a *descriptive name* in the Controller Name field. *The software sets a default name that indicates the loop/cluster ID and the control panel unit ID. You can edit the name to become a logical name that designates it as the Elevator Panel.*
5. Select the CPU Boards tab, set the CPU-1 to be "635" Model. *The serial number and IP Address will auto- populate the next time the connection is refreshed.*
6. Click the APPLY button to save the Controller programming. *This sets the daughter board list to include boards supported by the 635 CPU.*



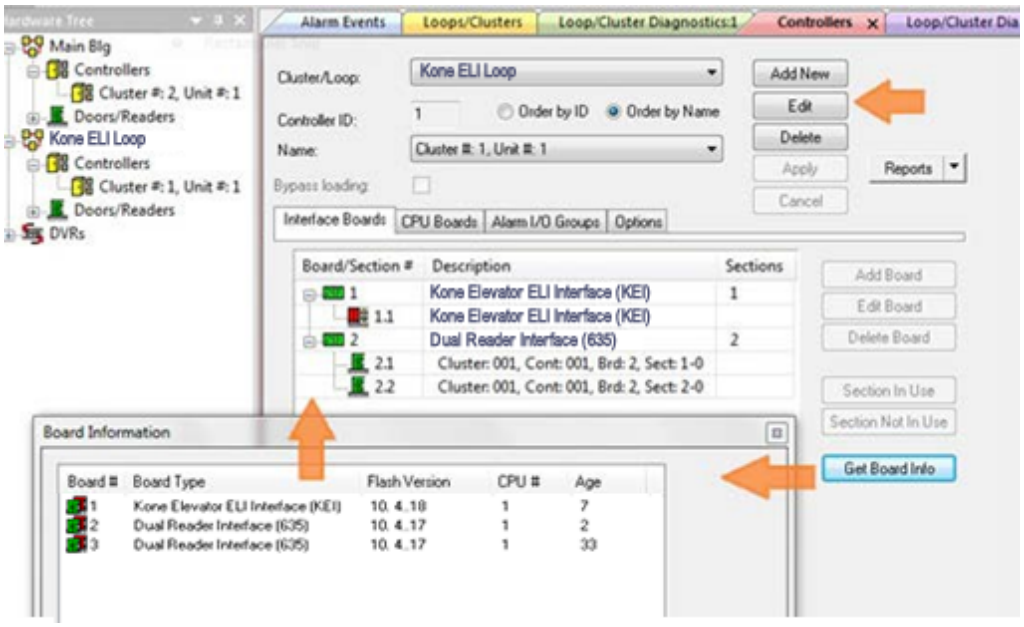
3.4.2ADDING THE KEI & DRM BOARDS TO THE CONTROLLER

It is recommended to add the daughter boards to the control panel using the GET BOARD INFO button. This way you can add all the correct boards and their correct board numbers without guesswork. The control panel must already be configured and connected to the Event Server to use this method to add boards. Otherwise you must add the boards one-by-one and set their board numbers.

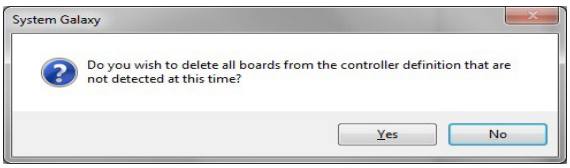
IMPORTANT: If you add boards manually, you must add the KEI BOARD first and set its board number to '1'. Any DRM boards must be set to '2' through '16', but they must match the board numbers actually used in the panel. DRM boards are not needed if the DECs have embedded readers. If a turnstile is used to control access, the DRMs must be in the same Panel with the KEI Board.

IMPORTANT: When using the GET BOARD INFO button to add boards, you must have the panel connected to the Event Server and all the daughter boards must be connected on the data bus and picked up by the CPU. Make sure you have completed the hardware installation, configuration and all daughter boards are present when you issue the 'boards' command from the terminal emulator or show up in the 635 Config Tool's web page.

1. In the Controller Properties screen, click the **EDIT** button again to add the boards.
2. Click the [Get Board Info] button (the Board Info screen will open with list of boards). Galaxy automatically returns the list of boards that the CPU has connected on its data bus.
3. Click the Save button to accept /add the boards.



4. A confirmation dialog will appear asking you if you want to overwrite any existing board programming. Click YES to confirm you want to save and overwrite.



5. At this point the system will prompt you to setup the doors and floors and DOPs, etc. **Continue to the next section for First-time Setup of the Elevator.**

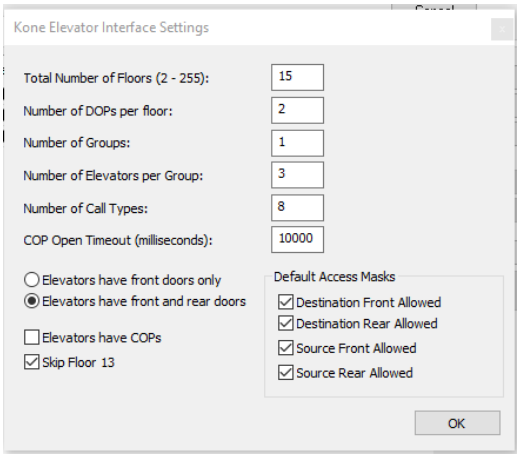
3.4.3 FIRST-TIME SETUP OF ELEVATOR PROGRAMMING

The first-time setup of elevator programming must be done when you first add the KEI board to the new KONE Control Panel.

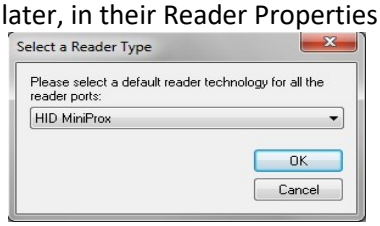
NOTES

- **The only way to get the following screen is on the import of the KEI Board. If you have already bypassed this screen, you can add Floors and Doors in the Kone Programming Tool. Some settings found in the Elevator Settings screen are not found in the Kone Programming Utility. You can delete and re-add the KEI board to get the screen again.**
- **The Floors & Doors programming screen allows you to add from 2 to 255 floors. These will be floors 0 thru 118.**
- You must specify whether you want to have front doors only or both front and back doors.
- If you need more than 254 floors, you can add them in the KONE Programming Tool.
- If you need more doors later, you can add them in the KONE Programming Tool.
- If you need to add negative floor numbers, you must add those manually from the KONE Programming Tool.

1. **When you click the Apply button to save the Controller programming, the KONE Settings window opens.**
   a. Enter the total number of floors
   b. Enter the number of DOPs per floor
   c. Enter the number of Groups
   d. Enter the number of Elevators per Groups
   e. Enter the number of Call Types (8 is default)
   f. Enter the COP Open Timeout (10000 is default)
   g. Set whether the elevators have ***front doors only*** or both ***front and rear***.
   h. Select the Elevator Doors (i.e. Front Doors Only or Front and Rear Doors)
   i. Check the option if you want to skip floor 13 in the system numbering – this must match what Kone has configured.
   j. Set the Default Access Mask options as appropriate for the KONE system configuration.
   k. Click OK to save.



2. Next the software will prompt you to choose a common reader technology type. Choose the most common/typical type you have installed on this controller. If there are some readers that use a different type technology, you must change them later, in their Reader Properties screen..



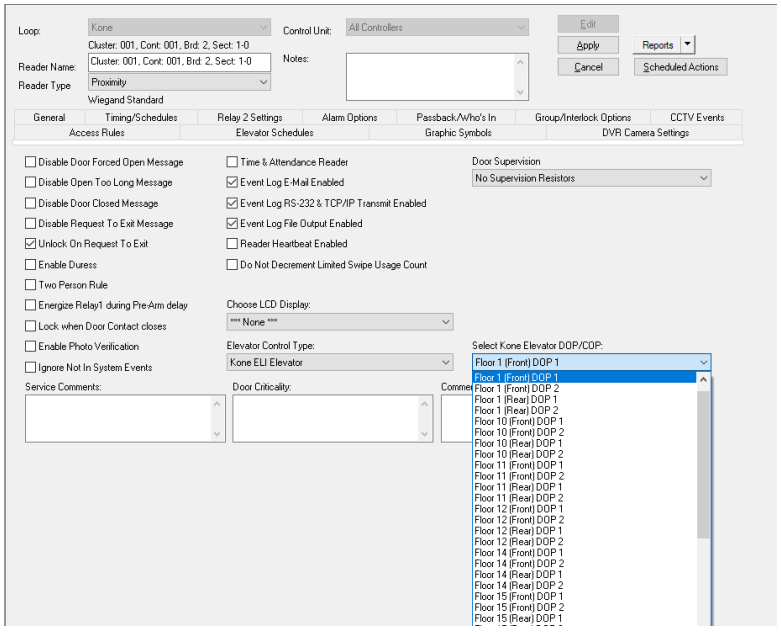
3.5 CONFIGURING THE READER PROPERTIES FOR KONE DOPs

In the *Reader Properties screen*, you must set each reader to be an KONE Elevator Reader.

NOTES

- You need to coordinate with the Kone System administrator to share your mapping scheme with them.
- You must have created the DOPs before they will show up in the Reader Properties screen. If you need to add more DOPs, go to the Section on **Kone Configuration Tool**.
- Galaxy sets a *default name* for each reader – this default system name identifies which controller, DRM Board and DRM section number the reader is wired to. You can and should rename the reader to a logical name that distinguishes which reader it is in the building – perhaps its location and which DEC it will be linked to.

1. Open the Reader Properties screen, from menu *Configure > Hardware > Readers*.
2. Select the KONE cluster name and the KEI Controller name.
3. Select the reader port you want to configure and click EDIT button.
4. You can rename the reader to a logical descriptive name for the Reader.
5. The Reader Type must be Wiegand if the KONE V3 DEC uses embedded reader (or you can set the Reader Type to the appropriate card format (Wiegand, ABA, etc.) if reader is separate/wired to Galaxy DRM board).
6. On the General tab, set the [Elevator Control Type] to 'KONE ELI Elevator'.
7. For the [KONE DOP/COP] droplist, select the FLOOR/DOP # you want this reader to be linked to. You can have more than one DOP on a floor, so be sure you are choosing correctly.



3.6 KONE CONFIGURATION TOOL

In the *Kone Elevator Configuration Tool*, you can add and remove elevator floors, doors, and DOPs.

NOTES

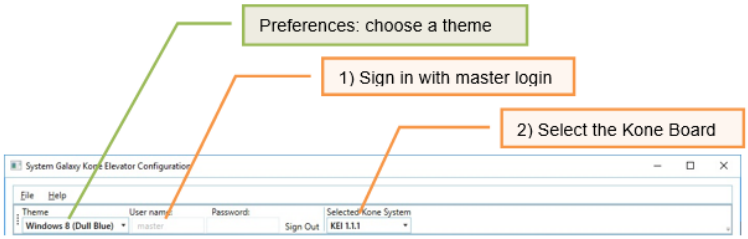
- You need to coordinate with the Kone System administrator to share your mapping scheme with them.
- You must have created the DOPs before they will show up in the *Reader Properties* screen.
- Galaxy sets a *default name* for each reader – this default system name identifies which controller, DRM Board and DRM section number the reader is wired to. You can and should rename the reader to a logical name that distinguishes which reader it is in the building – perhaps its location and which DEC it will be linked to.

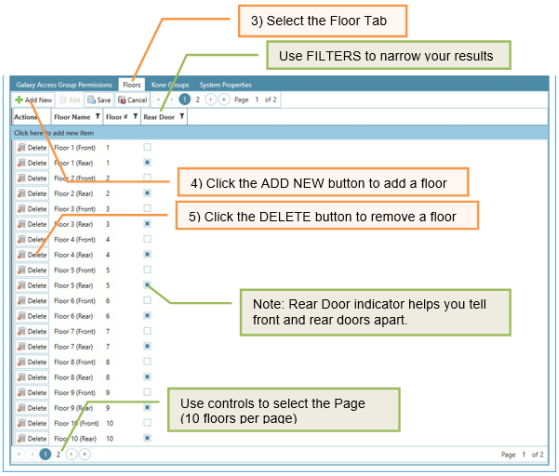
3.6.1 ADD & REMOVE FLOORS

NOTES

- You can select a color theme that best suits your needs.
- Use the appropriate filters to narrow the results.
- Use the page controls to advance to the appropriate page.

1. Launch the Kone Elevator Configuration Tool from desktop shortcut and Sign in with a master operator login.
2. Select the KEI Board as appropriate
3. Select the Floor Tab (and choose the appropriate page or filter as needed).
4. Click the ADD NEW button at the top of the toolbar, as needed, to add a new floor/door.
5. (OPTIONALLY) Click the DELETE button beside the floor, as needed, to delete a floor/door.



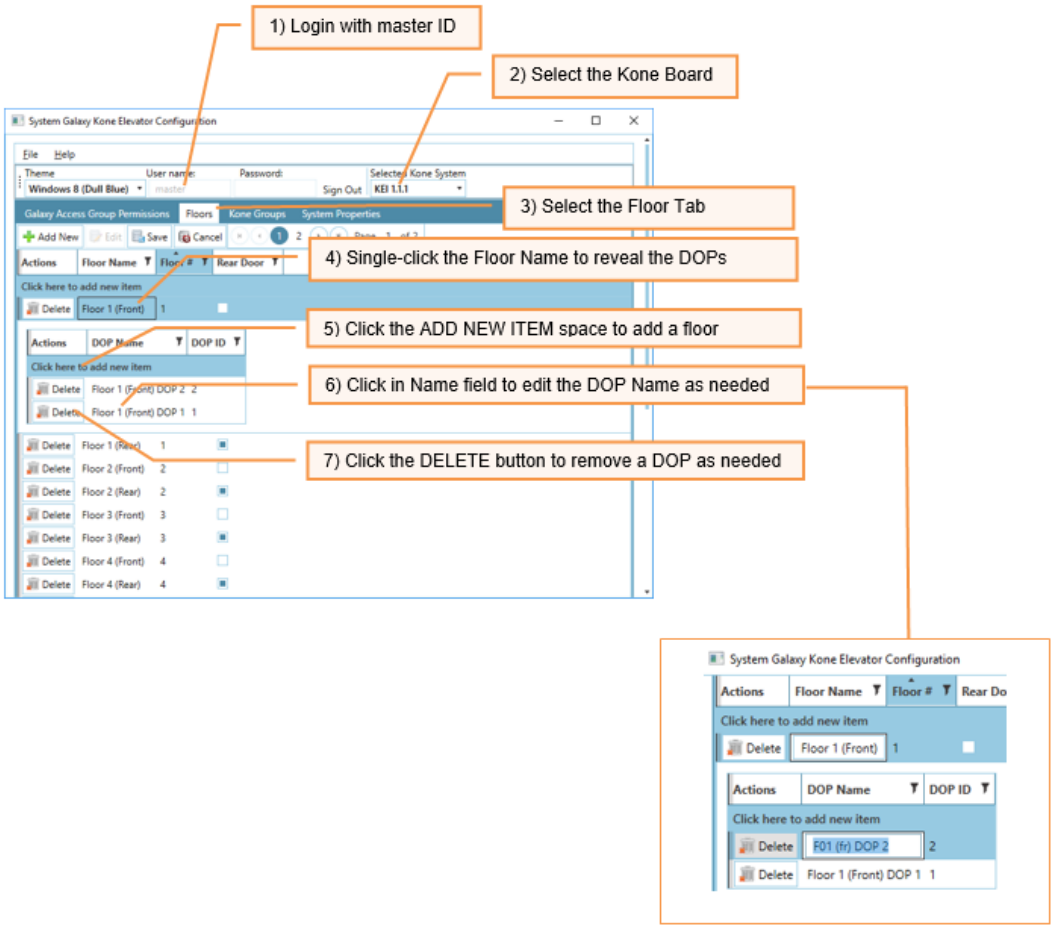


3.6.2 ADD & REMOVE DOPs

NOTES

- You can select a color theme that best suits your needs.
- Single-clicking the floor name will expand it to reveal the DOPs that are associated with the floor.
- Use the appropriate filters to narrow the results.
- Use the page controls to advance to the appropriate page.

1. Launch the Kone Elevator Configuration Tool from desktop shortcut and Sign in with a master operator login.
2. Select the KEI Board as appropriate
3. Select the Floor Tab (and use the appropriate page or filter as needed).
4. Click the ADD NEW button at the top of the toolbar, as needed, to add a new floor/door.
5. (OPTIONALLY) Click the DELETE button beside the floor, as needed, to delete a floor/door.



3.7 CREATING SCHEDULES (for Floor Groups, & Access Groups)

Before you can assign a schedule to an Access Group or a Floor Group, you must create the Time Schedule in the Schedule Programming screen.

IMPORTANT: BEST PRACTICE: Create a separate, schedule for each Floor Group, that is dedicated to be used only at that floor group - and not for use at other floor groups or at access groups, etc. Keep you schedules separate.
IMPORTANT: You may want separate schedules for Elevator Access Groups vs. the Access Groups used for interior doors. Planning needs are different for every system, so it is important to carefully consider the demands of your system.

IMPORTANT NOTICES

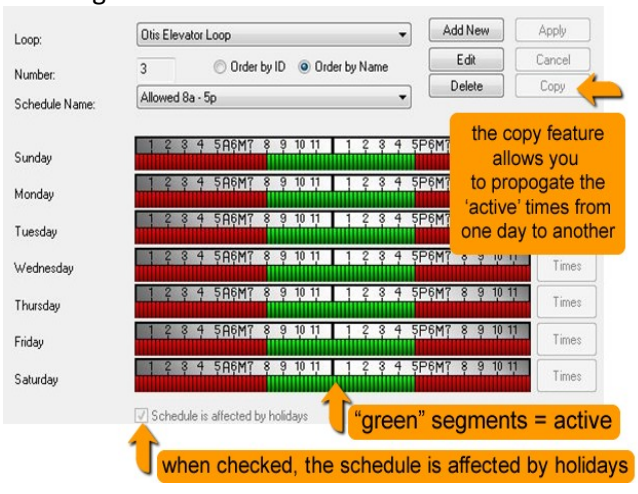
- All changes to Schedules Programming must be loaded to the Galaxy Elevator Panel using GCS Loader Utility.
- Also you will need to create schedules for cardholders who use interior doors on the appropriate loop/cluster.
- You must create *schedules* before you can assign them to access groups or User-defined Floor Groups (1-10).
- For Floor Group schedules: green is active (on - supersedes lower groups) and red is inactive (off).
- For Floor Groups: schedules control when the Floor Group settings are in effect at a DEC – i.e. sets the DEC Mode, and controls which floors are Free floors and Authorized floors.
- For Access Group schedules: green is valid (authorized); red indicates is (not authorized at this time).

3.7.1 CREATING A SCHEDULE (for the Elevator Loop)

1. Open the Schedules Properties screen from the menu *Configure > Hardware > Schedules*.
2. Select the KONE Elevator Loop/Cluster name.
3. Click Add New schedule
4. Enter a *descriptive name* for the schedule in the Name field. You may want to designate that the schedule is to be used with a floor group (e.g. by designating the FG #).
5. BEST PRACTICE: It is best to create a separate /dedicated schedule for each floor group. This schedule should not be applied to multiple groups or to access groups for administrative reasons - i.e. changing the schedule for one floor group would adversely affect the other groups. Do not share schedules.
6. Use your mouse to click & drag over the time segments for each day; changing to green or red as you desire.
    - Left-clicking the time capsules will change them to green (active/on; or allowed access)
    - Right-clicking the time capsules will change them to red (inactive/off; or denied access)

TIP: use the COPY feature to speed up programming by copying the setup of one day onto other days.

7. Enable (check) the [Affected By Holidays] option only if the schedule will be affected by a holiday schedule. Then for Holiday Settings, create schedules as they should work on holidays (i.e. all day red, half day green).
8. Click APPLY button to save changes.



3.8 CREATING ACCESS GROUPS (adding Elevator Floors to Access Group)

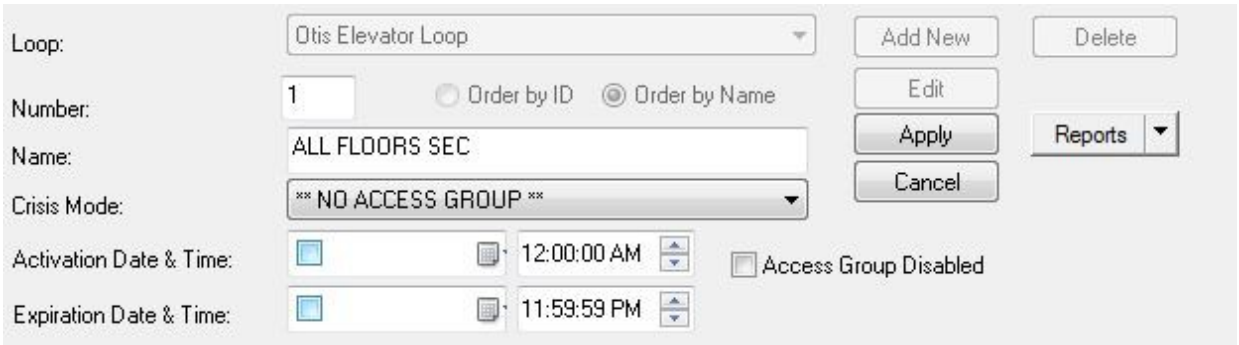
In the *Access Group Programming screen*, you must create each access group that you will need for the cardholders who use your elevator system.

IMPORTANT NOTICES

- All changes to Access Group Programming must be loaded to the elevator panel using the GCS Loader Utility.
- Any schedule you need for the access groups must already be created. If you have not created the time schedules, go to the Schedules screen and make your schedules. Close the Access Group screen to refresh its connection to the available schedules.
- It is recommended you use separate schedules for the elevator access groups than you used for floor groups.
- This way if you must change a schedule for a group of cardholders, you will not interfere with the floor groups.
- Elevator Access Groups must be created under the KONE Elevator Loop in order to provide access to elevator floors and the DEC readers that are mounted in the elevator lobbies.
- You cannot use Elevator Access Groups to give card access to interior doors, since Access Groups are loop-wide.
- Interior Door Access Groups must be created given privileges to the interior doors that the card needs to open.

3.8.1 CREATING AN ACCESS GROUP (Loop-wide)

1. Open the Access Group screen from the menu *Configure > Cards > Access Groups*.
2. Select the KONE Elevator Loop/Cluster name.
3. Click Add New schedule.
4. Enter a *descriptive name* for the access group in the Name field. You may want to indicate which cardholder group and which schedule are represented [i.e. Floors 2-6 (8-5); Apex Offices 7a-7p; Building Maint. 6-9pm;]
5. (optional) Set the date and time the access group is to become active and/or expire only if the access group will not be used immediately or will only be used for a certain length of time.
6. Do not check the Disable Access Group option (this option disables the access group and all its cardholders).



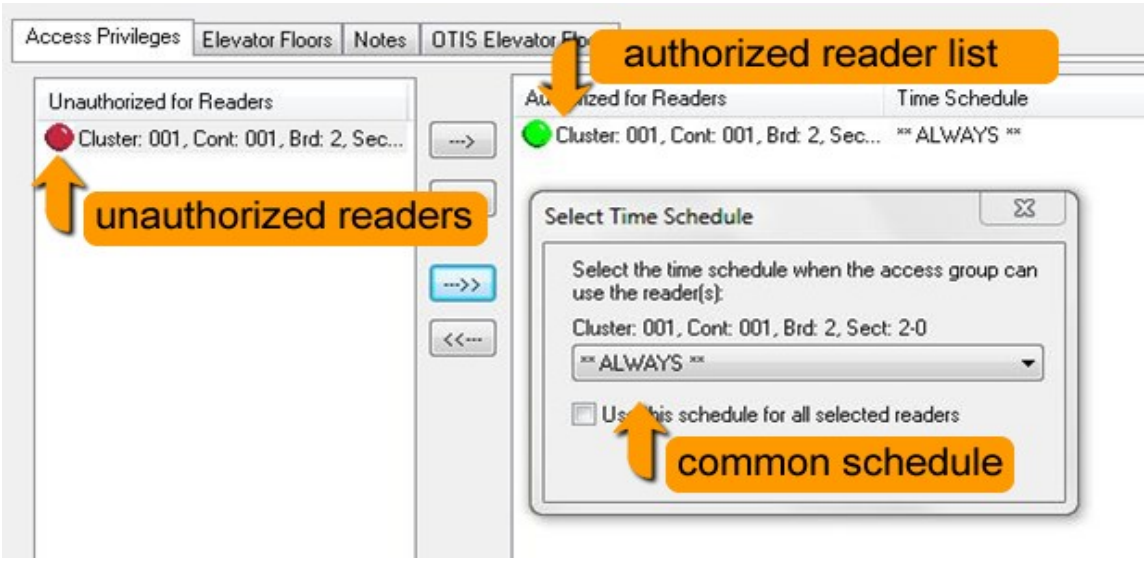
3.8.2 ADDING AUTHORIZED DOP READERS & TIME SCHEDULES (for Cardholder access)

On the *Access Privileges tab* there is a list of 'Unauthorized Readers' (with red icons) that are available on the elevator loop/cluster. Readers on an *interior door loop* will not appear on the *elevator loop*.

IMPORTANT NOTICES

- All changes to Access Group Programming must be loaded to the elevator panel using the GCS Loader Utility.
- Cardholders who need access to their interior doors once they reach their approved floor, will require a second access group to be created on the appropriate loop with the correct time schedules for those doors.
- Interior door schedules and access groups must be made under the loop/cluster that controls interior doors.
- If you have not given logical names to the DEC readers, you may want to do that before you proceed. Close and reopen the Access Group programming screen to pick up your changes. Then restart these steps to ensure proper programming.

1. Select the Access Privileges tab.
2. Using your mouse and the keyboard <Ctrl> key, select each DEC reader needed.
3. Click the [→] button to place the selected reader in the 'Authorized Reader' list. The Time Schedule dialog window will open to allow you to choose the schedule used for this person's access.
4. Choose the Schedule you want to give to the first reader in the list.
5. Set the [Use this schedule for all readers] option as needed:
   - Checking/enabling this option gives the chosen schedule to all the readers you have selected.
   - Unchecking this option will cause the software to prompt you to choose a schedule for each reader you are adding.
   - NOTE: you can also simply add the readers one-at-a-time if you find that less confusing.
   - will take this schedule unless you edit them individually (covered in a following step)



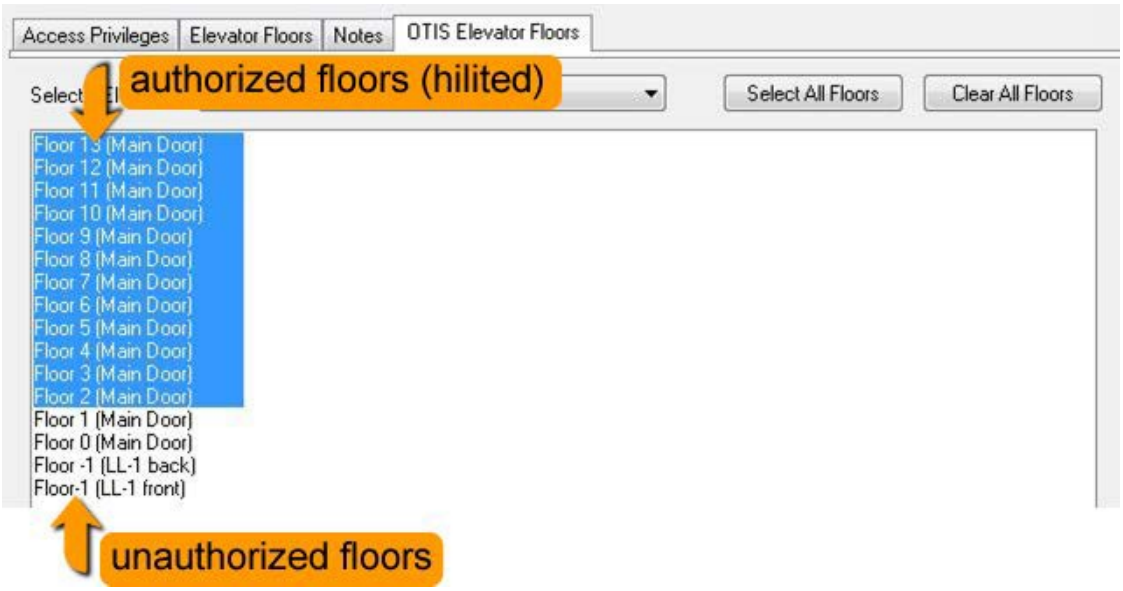
3.8.3 ADDING AUTHORIZED ELEVATOR FLOORS (for Cardholder access)

On the *KONE Elevator Floors tab* there is a list of Elevator Floors that are unselected (no blue highlights). These are available floors on the elevator loop/cluster. This tab does not appear on an *interior door loop*.

IMPORTANT NOTICES

- All changes to Access Group Programming must be loaded to the elevator panel using the GCS Loader Utility.
- You must give access to the elevator floors the cardholder needs to access.
- If you have not given logical names to the Elevator Floors, you may want to do that before you proceed. Close and reopen the Access Group programming screen to pick up your changes. Then restart these steps to ensure proper programming.
- If you have not finished adding any elevator floors that were not dynamically created when the elevator controller was added, then you should go do that before you proceed. Again you must refresh the Access Group screen by closing and reopening it to pick up the new floors.

1. Select the KONE Elevator Floors tab.
2. Select the KEI Board – there should be one.
3. Using your mouse and the keyboard <Ctrl> key, select each Elevator Floor as needed.
    a. Selected floors are highlighted blue
    b. Unselected floors are not highlighted
4. Click APPLY button to save changes now unless you want to add notes before saving (see next section).



3.8.4 ADDING NOTES TO THE ELEVATOR ACCESS GROUP

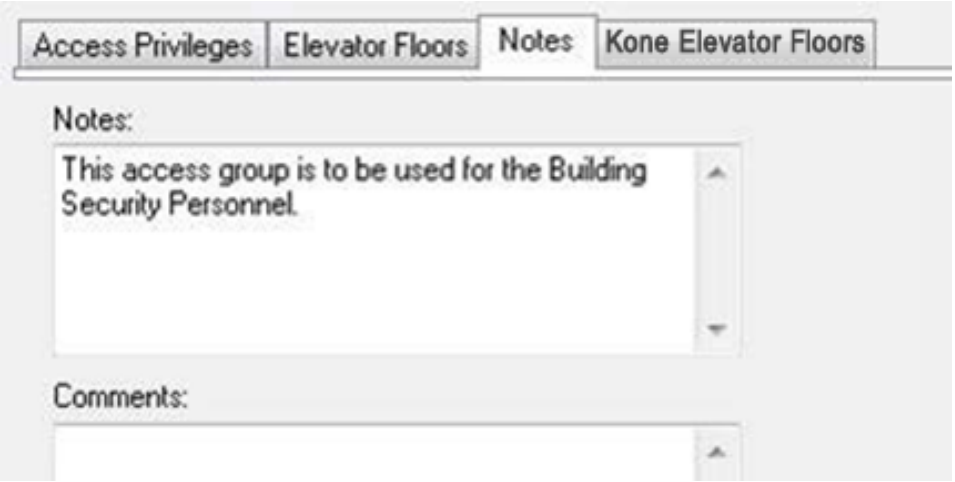
On the *Notes tab* there is a text field provided that allows the system administrator to enter notes about the access group. This is a good place to save any pertinent information about this access group. For organizational purposes it is a good idea to place notes in the Elevator Access Groups that help you understand who uses this group and how to manage the group.

Likewise, it is a good idea to include notes on access groups for your interior door groups when you create them.

IMPORTANT NOTICES

- All changes to Access Group Programming must be loaded to the elevator panel using the GCS Loader Utility.
- Notes are optional and do not affect the functionality of the access group.

1. Select the Notes tab and enter information as desired.
2. Click APPLY button to save changes.



3.9 ASSIGNING ACCESS GROUPS TO SECURITY CARDS (for Elevator Floors)

In the Cardholder Programming screen, you must create a cardholder record, then add an access card to it. Then you can assign access privileges for the elevator readers & floors to the card.

Consult the main *System Galaxy Software User Guide* for any cardholder programming instructions that are outside the scope of this KONE Elevator interface document.

IMPORTANT NOTICES

- All changes to Cardholder Programming must be loaded to the elevator panel using the GCS Loader Utility.
- You can apply the elevator access privileges and interior door access privileges to the same card. But you can supply separate cards if you desire to manage cards that way.
- SG supports multiple access groups (up to 4 per loop) on the access card
- SG supports multiple loop privileges on one access card.
- SG support giving multiple access cards to one cardholder, if you desire to provide multiple credentials.

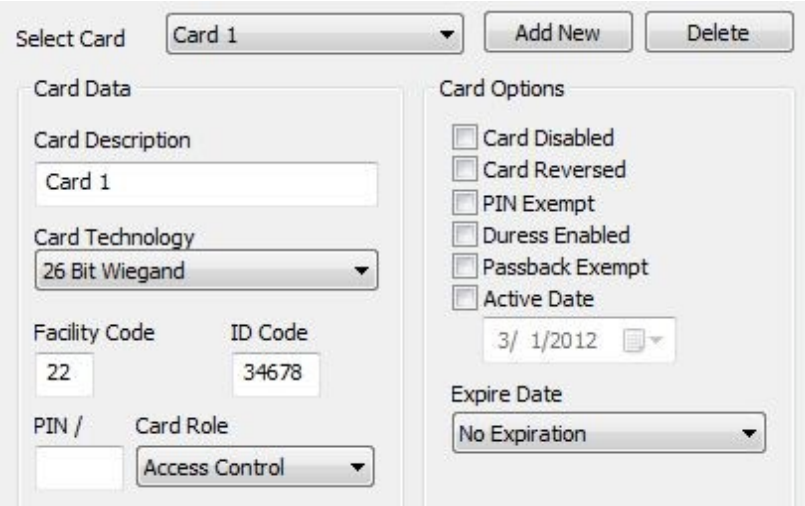
3.9.1 ADDING A NEW CARDHOLDER

1. Open the Cardholder screen from the menu *Configure > Cards > Cardholder*.
2. If you are adding a new cardholder record, click Add New.
    - You must provide a last name for a new cardholder
    - Fill in and set any fields needed.
3. --OR --Select the Cardholder name if it already exists in the system and click EDIT.

3.9.2 ADDING A NEW CARD

In the *Cardholder Programming screen, you* add or enroll the new card. This is done on the Card/Badge Settings tab.

1. Select the Card / Badge Settings tab
2. Select the CARD 1 from the droplist
3. Set the correct Card Technology that you will issue to the cardholder
4. Type in the Card Code in the fields provided. (if you have an enrollment reader you can simply place your mouse cursor inside the ID code field by clicking it in the field – when the blinking cursor is inside the ID code field, you can swipe the card at the enrollment reader. The code will auto-populate in the card code fields)
5. choose 'access card' for the card role
6. (optional) set the active date and expiration date as needed.



3.9.3 ASSIGNING LOOP PRIVILEGES TO THE CARDHOLDER

In the *Cardholder Programming screen,* you must assign the Elevator Loop Privileges to the card. This is done on the Card/Badge Settings tab.

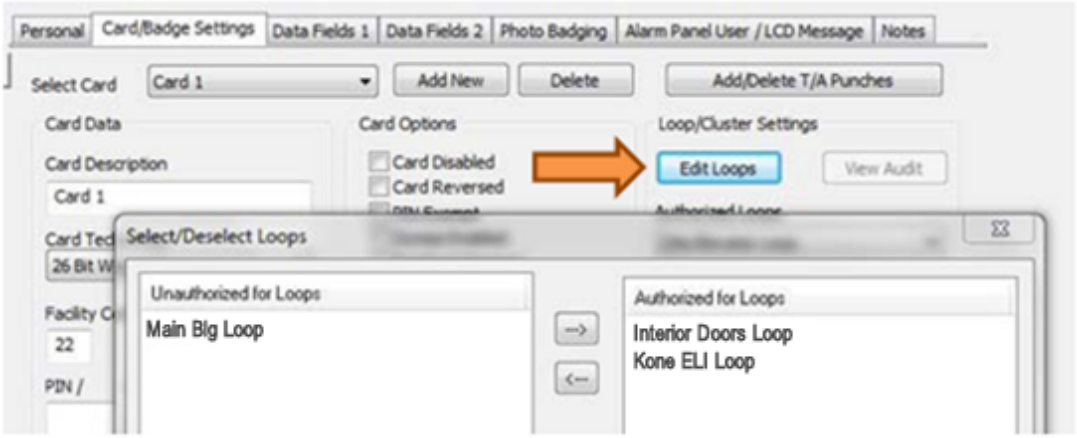
IMPORTANT NOTICES

- All changes to Cardholder Programming must be loaded to the elevator panel using the GCS Loader Utility.
- You must assign the Elevator Loop to the access card.
- You must assign the appropriate elevator access group to the access card.
- You can assign the interior door loops and access privileges to the same card or to a separate card, whichever is appropriate for your system.

Once you have the basic information entered, you can set the loop privileges.

1. Select the Card / Badge Settings tab
2. Click the EDIT LOOPS button
3. Use the [→] button to move the elevator loop to the 'Authorized Loops' list. If you also want to assign the interior door loops to the same card, you can do that now. If you need to enroll a separate card for interior doors, then return to step 4 to do this after you are finished programming Card 1.
4. Click OK to return to the Card / badge Settings screen.

In this screen shot example, the SG Enrollment Operator is adding two loops to the Cardholder's access card.



3.9.4 ASSIGNING ACCESS GROUPS TO THE CARD

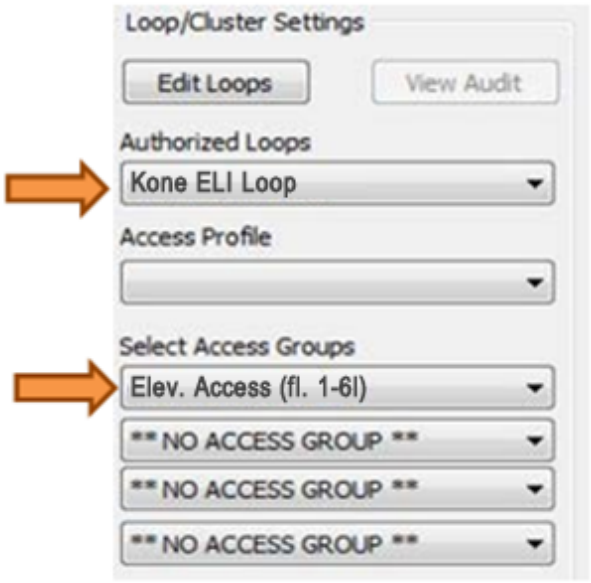
In the *Cardholder Programming screen,* you must assign the elevator Access Groups to the card. This is done on the Card/Badge Settings tab.

IMPORTANT NOTICES

- All changes to Cardholder Programming must be loaded to the elevator panel using the GCS Loader Utility.
- You must assign the Elevator Loop to the access card before you can add the access groups.

After you have assigned the loop privileges, you can assign Access Groups to this card ...

1. Begin by selecting the Elevator Loop Name.
2. Use the Access Group droplists to set access groups for this card. You can set up to four access groups.
3. If you are also setting interior door access you can now select that loop and then set the access groups for it. Again you can set up to four Access Groups for this loop. Personal Door programming is supported for interior door loops. Consult the ***SG 10 Software User Guide*** for details on how to program personal doors.



3.9.5 ASSIGNING KONE VIP FEATURES

In the *Cardholder Programming screen, o*n the *Personal tab* you can enable the KONE VIP Features for a cardholder (NOTE other features such as Handicap or split group relate to the Otis Elevator System and do not apply to KONE). The feature is represented by checkbox option, which is cardholder-specific.

System Galaxy passes the special feature indicator to the KONE System when the card is presented at a DOP Reader (i.e. elevator reader).

SPECIAL DESTINATION FEATURES ARE SUPPORTED BY GALAXY:

Physical Disability:	*Currently Otis only.*
Vertigo:	*Currently Otis only.*
VIP option:	**When checked, this indicates the cardholder is a VIP.** The KONE system can be set up to dispatch an empty elevator car that runs non-stop to the destination floor.
Split Group:	*Currently Otis only.*

1. Open the Cardholder screen from the menu ***Configure > Cards > Cardholder***.
2. Select the *Personal tab*
3. locate the special flags in the middle part of the screen under the main photograph.
4. Check the appropriate flag for the cardholder

Example Screenshot below shows VIP is enabled on the Cardholder Personal Tab

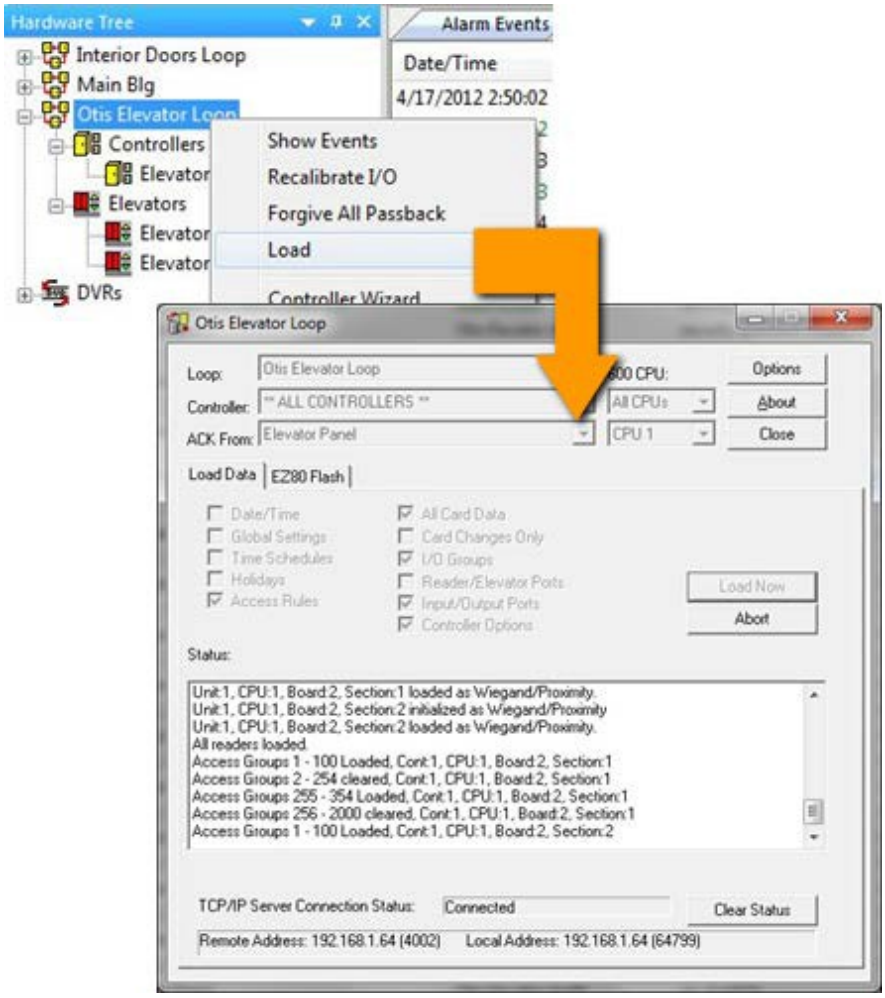
4 EVENT LOGGING AND REPORTS

This section covers the operational tasks, such as event logging and reports.

4.1 LOADING THE ELEVATOR PANEL

After you have completed the system programming, you must load the data to the elevator control panel. Data is loaded using the GCS Loader Utility. When you perform a load, the time, schedules, access groups, cards, floors, DECs, Floor Groups and other data is transmitted to the control panel and stored in the panel's memory.

1. Open the System Galaxy Hardware Tree from the menu *View > Hardware Tree*.
2. Right click on the *Loop icon* for the KONE Elevator Loop.
3. Select LOAD from the context menu. The GCS Load Utility will open.



4.2 SYSTEM GALAXY ELEVATOR EVENTS

System Galaxy displays the elevator events in the Event Logging screen for the elevator loop. The following events that are logged from the elevator panel.

1. **Invalid Access Attempt –** is logged when a card is not authorized because the schedule is inactive or the card has not been assigned to an elevator access group that has permissions to use the DEC Reader that the event came from. The reader name is indicated along with the event
2. **Valid Access** - is logged when a card is authorized because the scheduled is active and the card is assigned to an access group that has permission to use that reader.

IMPORTANT NOTICES

- If the IP connection between the control panel and the event server are interrupted, the panel will remain fully functional (i.e. does not go into a degraded operating mode). The panel continues to function as programmed.
- The panel will retransmit its event buffer when the IP connection is restored.
- If you close the System Galaxy software or log out of System Galaxy or out of the Windows operating system (change operators), the event service and other Galaxy services are designed to continue running. Events continue logging to the database and are then available on system event reports.
- If you turn off (shut down) the computer running the Galaxy services, the elevator panel will remain fully functional (i.e. does not go into a degraded operating mode). The panel continues to function as programmed. The panel will retransmit its event buffer when the IP connection is restored.

Alarm Events | Otis Elevator Loop

Date/Time	Device/Point	Event	User	Loop	PIN / Additional Inform...
4/17/2012 2:50:02 PM	Floor 8 (Main Door)	Otis Elevator Audit	security gramlich (Card 2)	Otis Elevator Loop	Bank A, Car 5 assigned
4/17/2012 2:50:02 PM	Cluster: 001, Cont: 001, Brd: 2, Sect: 2-0	Valid Access	security gramlich (Card 2)	Otis Elevator Loop	
4/17/2012 2:49:53 PM	Floor 7 (Main Door)	Otis Elevator Audit	security gramlich (Card 2)	Otis Elevator Loop	Bank A, Car 1 assigned
4/17/2012 2:49:53 PM	Cluster: 001, Cont: 001, Brd: 2, Sect: 2-0	Valid Access	security gramlich (Card 2)	Otis Elevator Loop	
4/17/2012 2:48:54 PM	Floor 0 (Main Door)	Otis Elevator Audit	lee lesley (Card 1)	Otis Elevator Loop	Invalid Credential Receive...
4/17/2012 2:48:54 PM	Cluster: 001, Cont: 001, Brd: 2, Sect: 2-0	Invalid Access Attempt	lee lesley (Card 1)	Otis Elevator Loop	
4/17/2012 2:48:43 PM	Floor 0 (Main Door)	Otis Elevator Audit	lee lesley (Card 1)	Otis Elevator Loop	Invalid Credential Receive...
4/17/2012 2:48:43 PM	Cluster: 001, Cont: 001, Brd: 2, Sect: 2-0	Invalid Access Attempt	lee lesley (Card 1)	Otis Elevator Loop	
4/17/2012 2:48:09 PM	Floor 12 (Main Door)	Otis Elevator Audit	lee lesley (Card 1)	Otis Elevator Loop	Bank A, Car 7 assigned
4/17/2012 2:48:08 PM	Cluster: 001, Cont: 001, Brd: 2, Sect: 1-0	Valid Access	lee lesley (Card 1)	Otis Elevator Loop	
4/17/2012 2:47:57 PM	Floor 10 (Main Door)	Otis Elevator Audit	lee lesley (Card 1)	Otis Elevator Loop	Bank A, Car 7 assigned

5 Additional Troubleshooting, Resources, & Glossary

This chapter includes troubleshooting tips, resources and glossary. See chapter 1 for the Requirements and some Trouble shooting techniques listed for interrogating boards.

5.1 TROUBLESHOOTING

5.1.1 GALAXY KEI UPDATE MESSAGES TO KONE SYSTEM & DECS

There are 2 times the ***KEI Board*** sends an update message to the KONE System. The update includes the appropriate mask for the DOPs, COPs and cardholder floor privileges for every floor and door that is available during online and offline operation.

1. **A message is sent any time the KEI negotiates a connection to the KONE System.** This occurs whenever the KEI board comes online, or when the KONE System comes online.
2. A message is sent when any configuration changes are made to the DOPs or COPs.
3. A message is sent whenever a card authorization is issued from Galaxy. The authorization or denial is sent along with floor group programming up dates.

5.2 ADDITIONAL DOCUMENTATION RESOURCES

Title	Scope of Information
Galaxy 635 Hardware Manual	*Installation and configuration of Galaxy 635 Hardware*
System Galaxy v10 Software User Guide	*Configuration of System Galaxy software*
System Galaxy v10 System Specification	*System, OS, PC, Network requirements, etc.*
Galaxy 635 Configuration Tool	*How to install and use the browser-based configuration tool to configure hardware boards in the 635 panel.*

5.3 GLOSSARY (TERMS & ACRONYMS)

Access Control System (System Galaxy)	When the ACS is online the system uses the online global and specific available doors and floors. Floors and doors that are not available globally are never available. Floors and doors that are not available specifically from a certain DOP are never available from that DOP regardless of the Access Privileges assigned in System Galaxy to the access card.
Available Doors (globally) (online and offline)	(Such as Global DOPs or COPs) Elevator doors (front and rear) that are available in the entire system when online and offline from the Access Control System. These are programmed into the KEI board based on what is configured in the KONE system. The passenger credentials will further limit or restrict access through the Galaxy access rules.
Available Floors (globally) (online and offline)	(Such as Global DOPs or COPs) Elevator floors that are available in the entire system when online and offline from the Access Control System. These are programmed into the KEI board based on what is configured in the KONE system. The passenger credentials will further limit or restrict access through the Galaxy access rules.
Available Doors (specifically) (online and offline)	(Such as Specific DOPs or COPs) Elevator doors (front and rear) that are available in the entire system when online and offline from the Access Control System. These are programmed into the KEI board based on what is configured in the KONE system. The passenger credentials will further limit or restrict access through the Galaxy access rules.
Available Floors (specifically) (online and offline)	(Such as Specific DOPs or COPs) Elevator floors that are available in the entire system when online and offline from the Access Control System. These are programmed into the KEI board based on what is configured in the KONE system. The passenger credentials will further limit or restrict access through the Galaxy access rules.
***Destination Features** (KONE)	Destination Features are special indicators that identify whether a passenger is a VIP. These indicators are assigned to the cardholder and are passed to KONE when an access decision is transmitted from the KEI panel.
KEI Panel (Galaxy)	Galaxy elevator control panel that provides elevator access control for KONE
KEI Board (Galaxy)	Galaxy 'KONE Elevator' Interface Board; connects via Ethernet to KONE Layer-3 switch. The KEI board is a modified CPU board.
SG (Galaxy)	SG acronym for System Galaxy; refers to the hardware or software (as